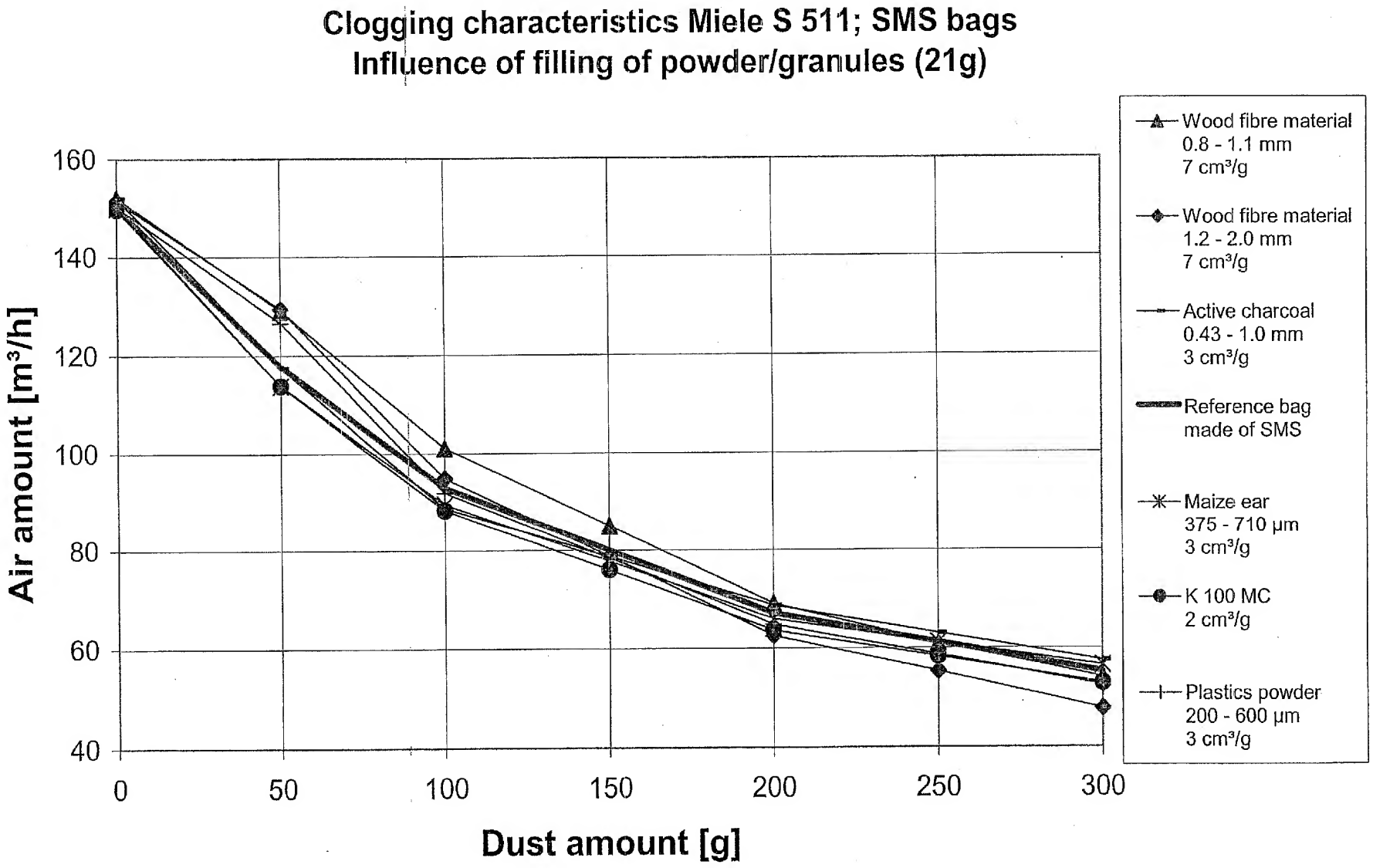
Clogging characteristics Miele S 511; SMS bags
Influence of filling of powder/granules (21g)
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
Wood fibre material
0.8 - 1.1 mm
7 cm³/g
Wood fibre material
1.2 - 2.0 mm
7 cm³/g
Active charcoal
0.43 - 1.0 mm
3 cm³/g
Reference bag
made of SMS
Maize ear
375 - 710 µm
3 cm³/g
K 100 MC
2 cm³/g
Plastics powder
200 - 600 µm
3 cm³/g

Fig. 1/11

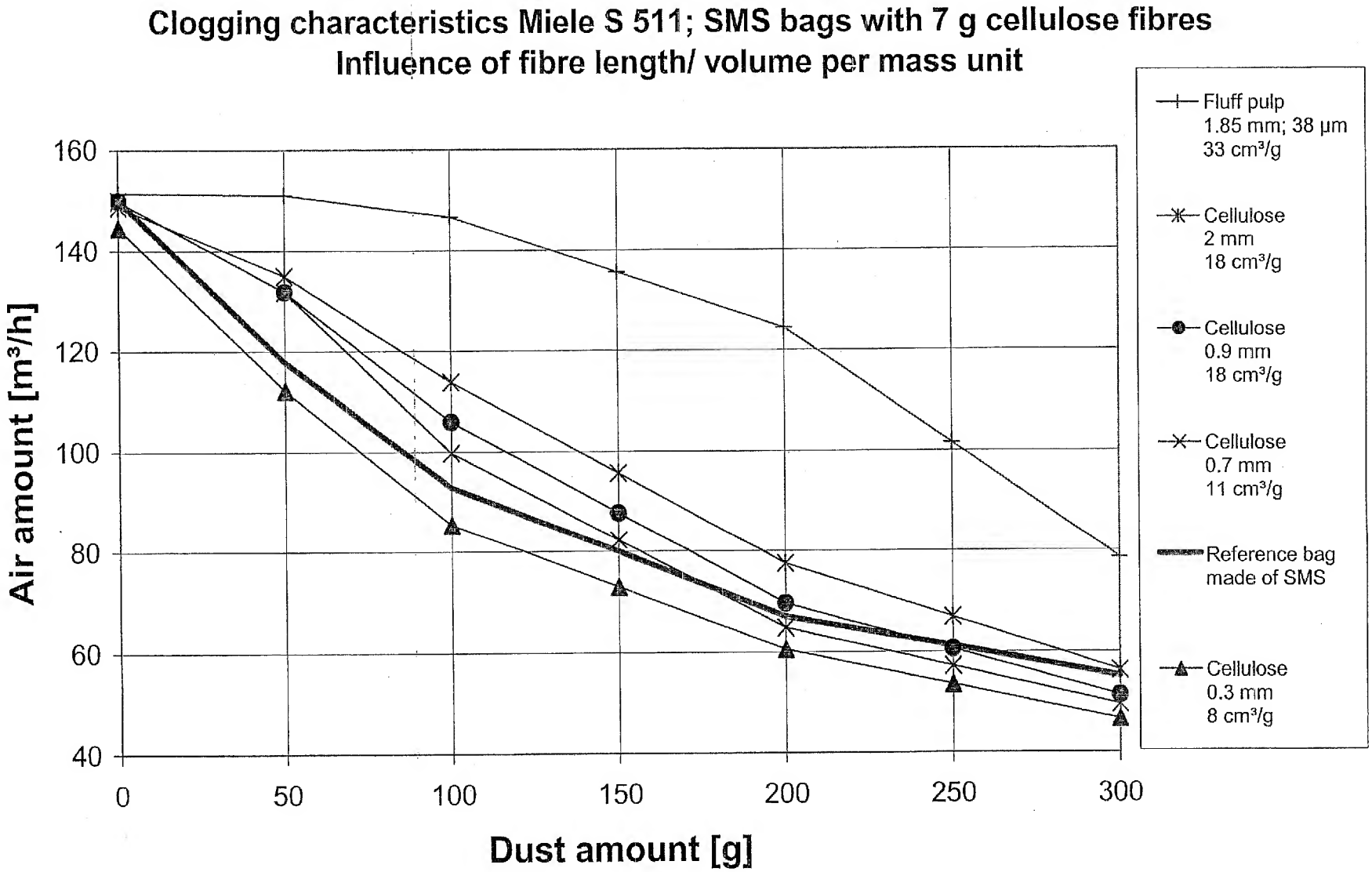
Clogging characteristics Miele S 511; SMS bags with 7 g cellulose fibres
Influence of fibre length/ volume per mass unit
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
Fluff pulp
1.85 mm; 38 µm
33 cm³/g
Cellulose
2 mm
18 cm³/g
Cellulose
0.9 mm
18 cm³/g
Cellulose
0.7 mm
11 cm³/g
Reference bag
made of SMS
Cellulose
0.3 mm
8 cm³/g

Fig. 2/11

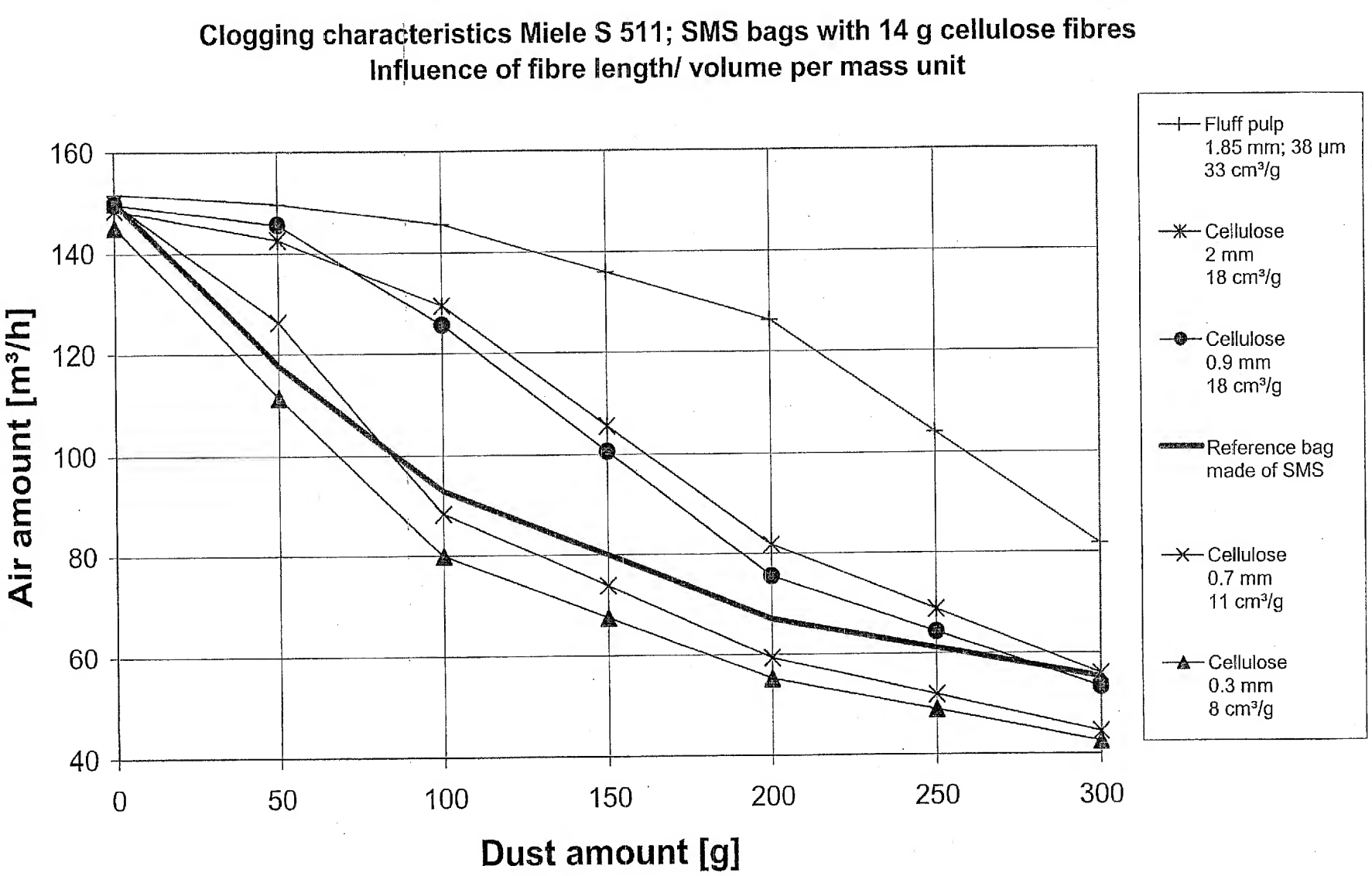
Clogging characteristics Miele S 511; SMS bags with 14 g cellulose fibres
Influence of fibre length/ volume per mass unit
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
Fluff pulp
1.85 mm; 38 µm
33 cm³/g
Cellulose
2 mm
18 cm³/g
Cellulose
0.9 mm
18 cm³/g
Reference bag
made of SMS
Cellulose
0.7 mm
11 cm³/g
Cellulose
0.3 mm
8 cm³/g

Fig. 3/11

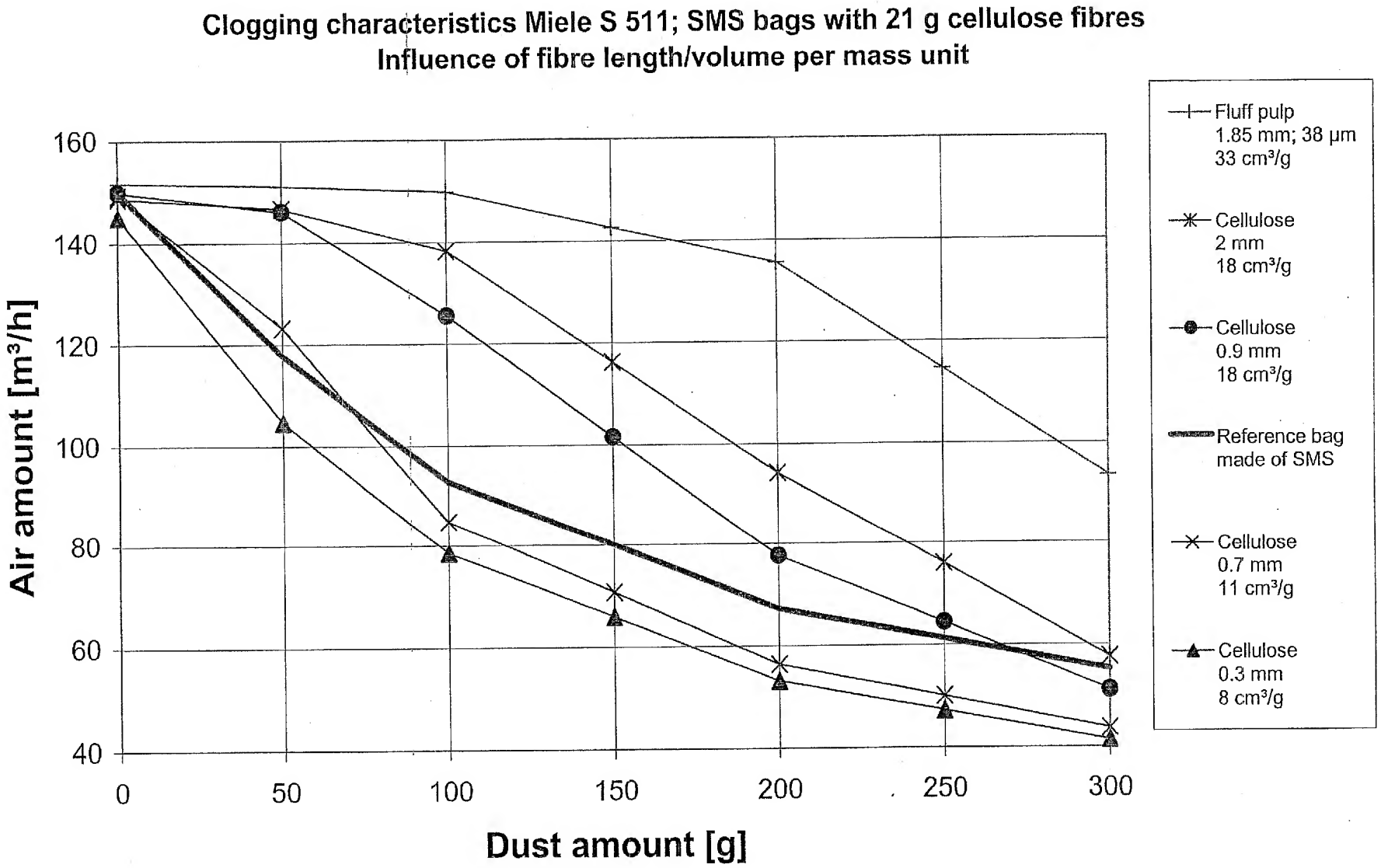
Clogging characteristics Miele S 511; SMS bags with 21 g cellulose fibres
Influence of fibre length/volume per mass unit
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
Fluff pulp
1.85 mm; 38 µm
33 cm³/g
Cellulose
2 mm
18 cm³/g
Cellulose
0.9 mm
18 cm³/g
Reference bag
made of SMS
Cellulose
0.7 mm
11 cm³/g
Cellulose
0.3 mm
8 cm³/g

Fig. 4/11

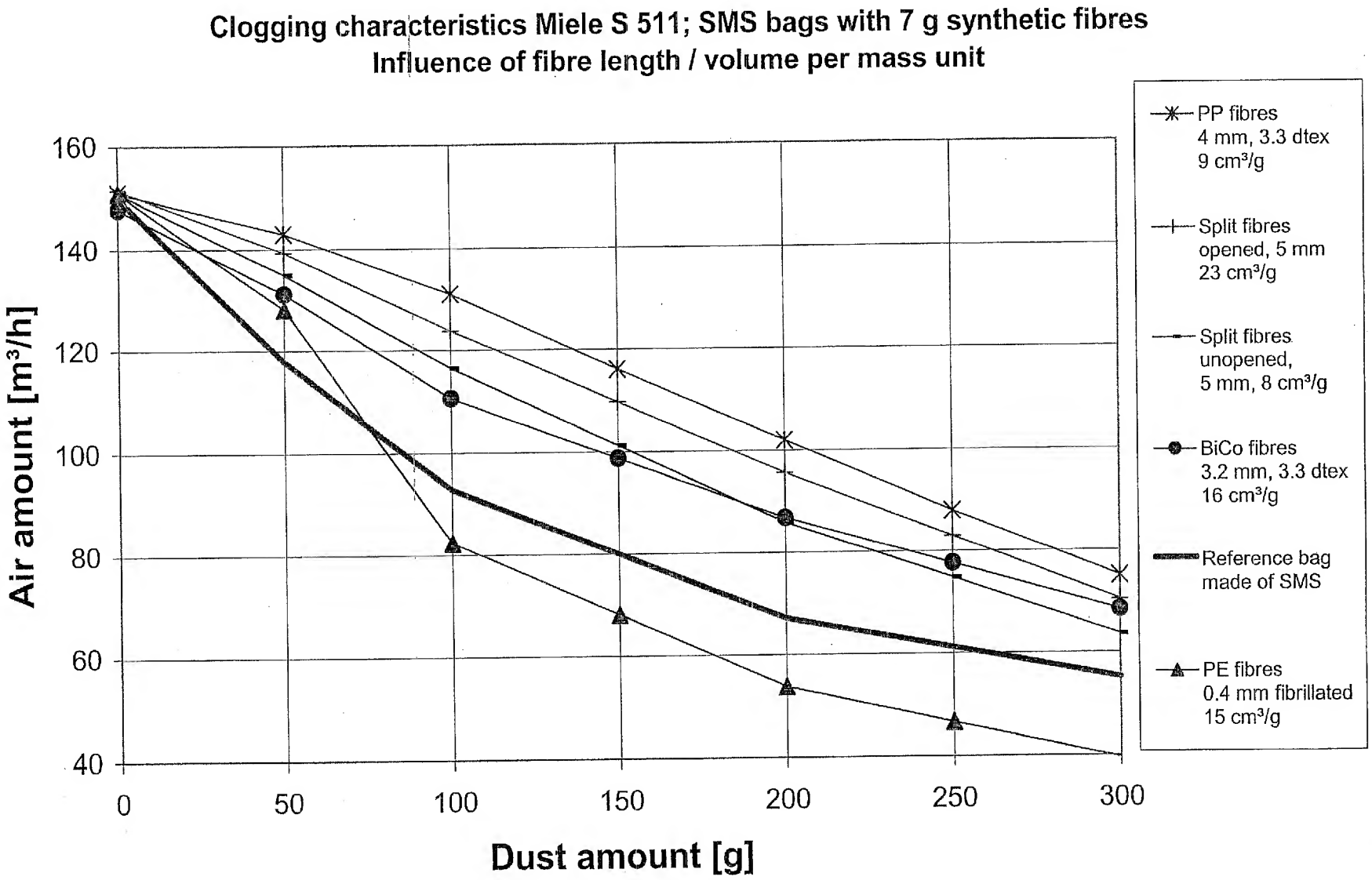
Clogging characteristics Miele S 511; SMS bags with 7 g synthetic fibres
Influence of fibre length / volume per mass unit
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
PP fibres
4 mm, 3.3 dtex
9 cm³/g
Split fibres
opened, 5 mm
23 cm³/g
Split fibres
unopened,
5 mm, 8 cm³/g
BiCo fibres
3.2 mm, 3.3 dtex
16 cm³/g
Reference bag
made of SMS
PE fibres
0.4 mm fibrillated
15 cm³/g

Fig. 5/11

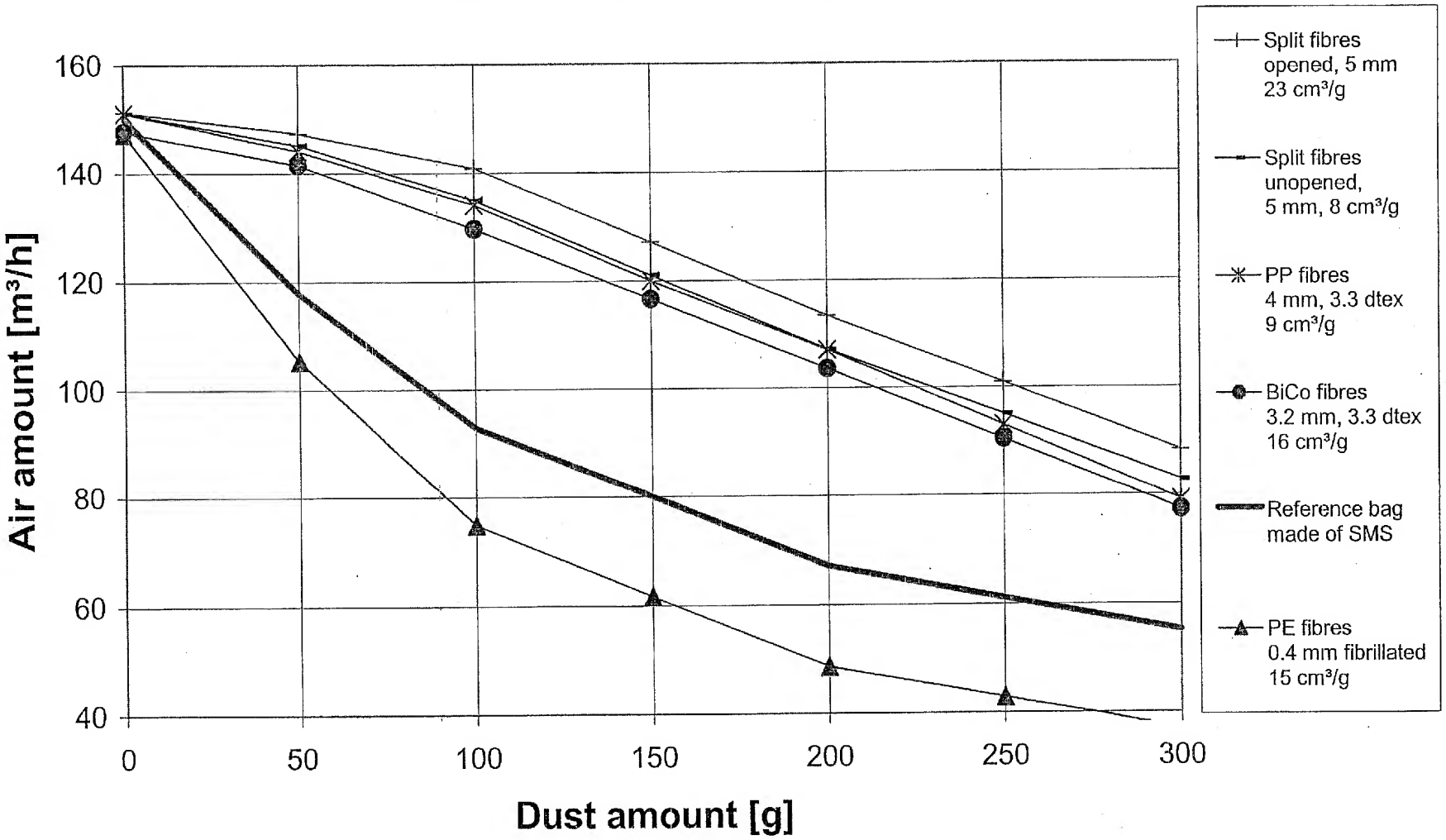
Clogging characteristics Miele S 511: SMS bags with 14 g synthetic fibres
Influence of fibre length/volume per mass unit
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
Split fibres opened, 5 mm 23 cm³/g
Split fibres unopened, 5 mm, 8 cm³/g
PP fibres 4 mm, 3.3 dtex 9 cm³/g
BiCo fibres 3.2 mm, 3.3 dtex 16 cm³/g
Reference bag made of SMS
PE fibres 0.4 mm fibrillated 15 cm³/g

Fig. 6/11

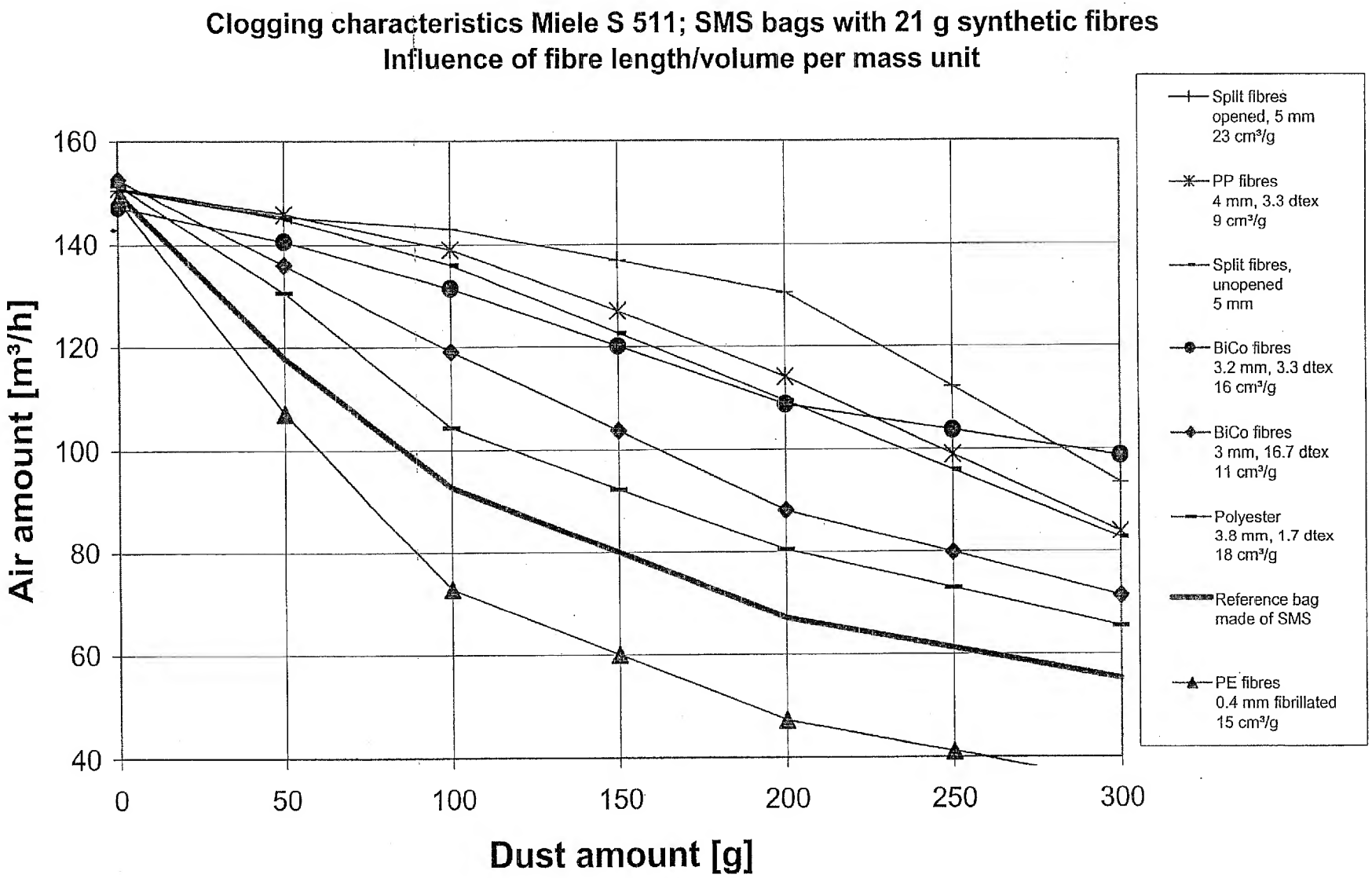
Clogging characteristics Miele S 511; SMS bags with 21 g synthetic fibres
Influence of fibre length/volume per mass unit
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
Split fibres opened, 5 mm 23 cm³/g
PP fibres 4 mm, 3.3 dtex 9 cm³/g
Split fibres, unopened 5 mm
BiCo fibres 3.2 mm, 3.3 dtex 16 cm³/g
BiCo fibres 3 mm, 16.7 dtex 11 cm³/g
Polyester 3.8 mm, 1.7 dtex 18 cm³/g
Reference bag made of SMS
PE fibres 0.4 mm fibrillated 15 cm³/g

Fig. 7/11

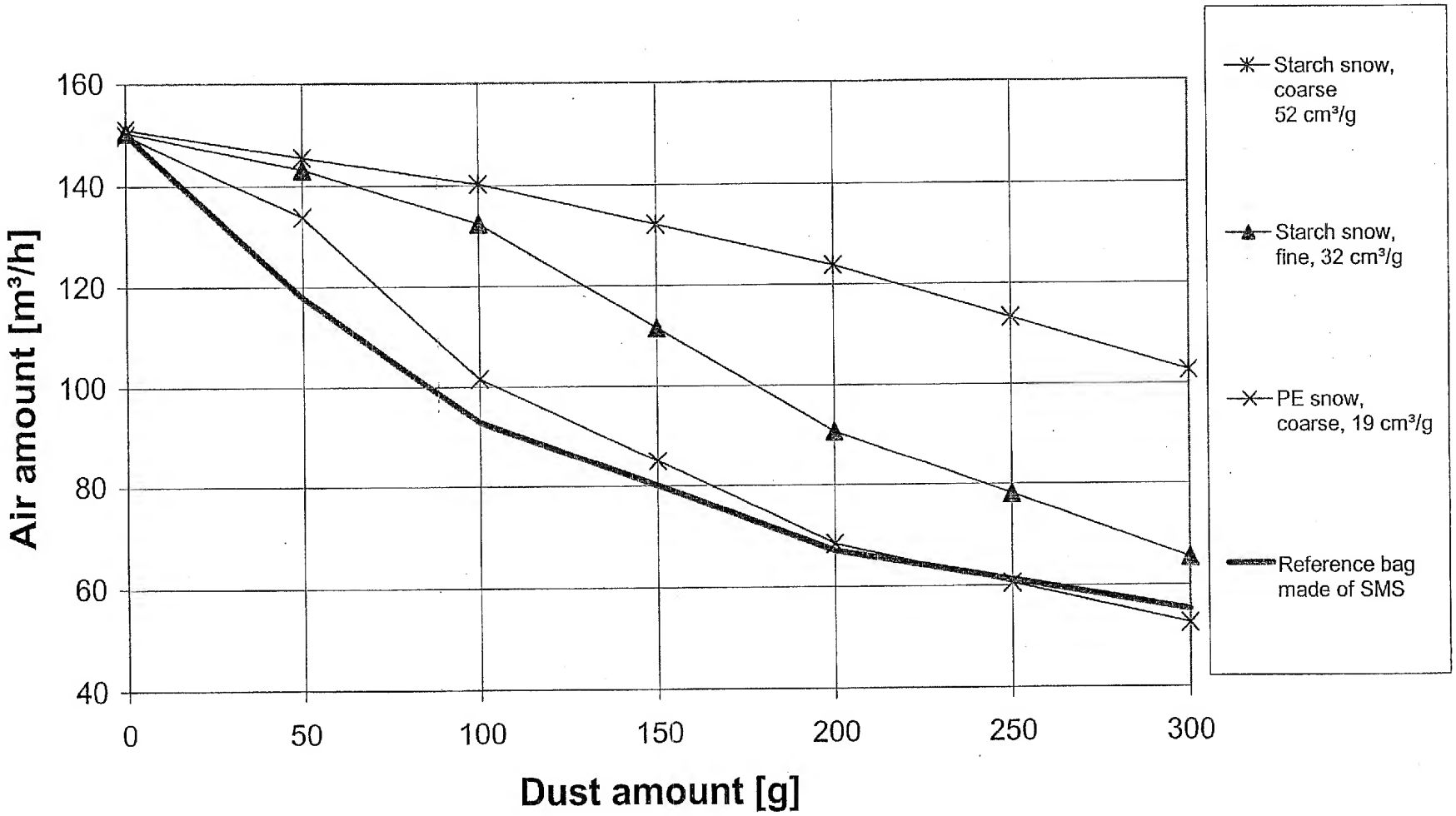
Clogging characteristics Miele S 511
SMS bags with 21 g polymer flakes
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
Starch snow, coarse 52 cm³/g
Starch snow, fine, 32 cm³/g
PE snow, coarse, 19 cm³/g
Reference bag made of SMS

Fig. 8/11

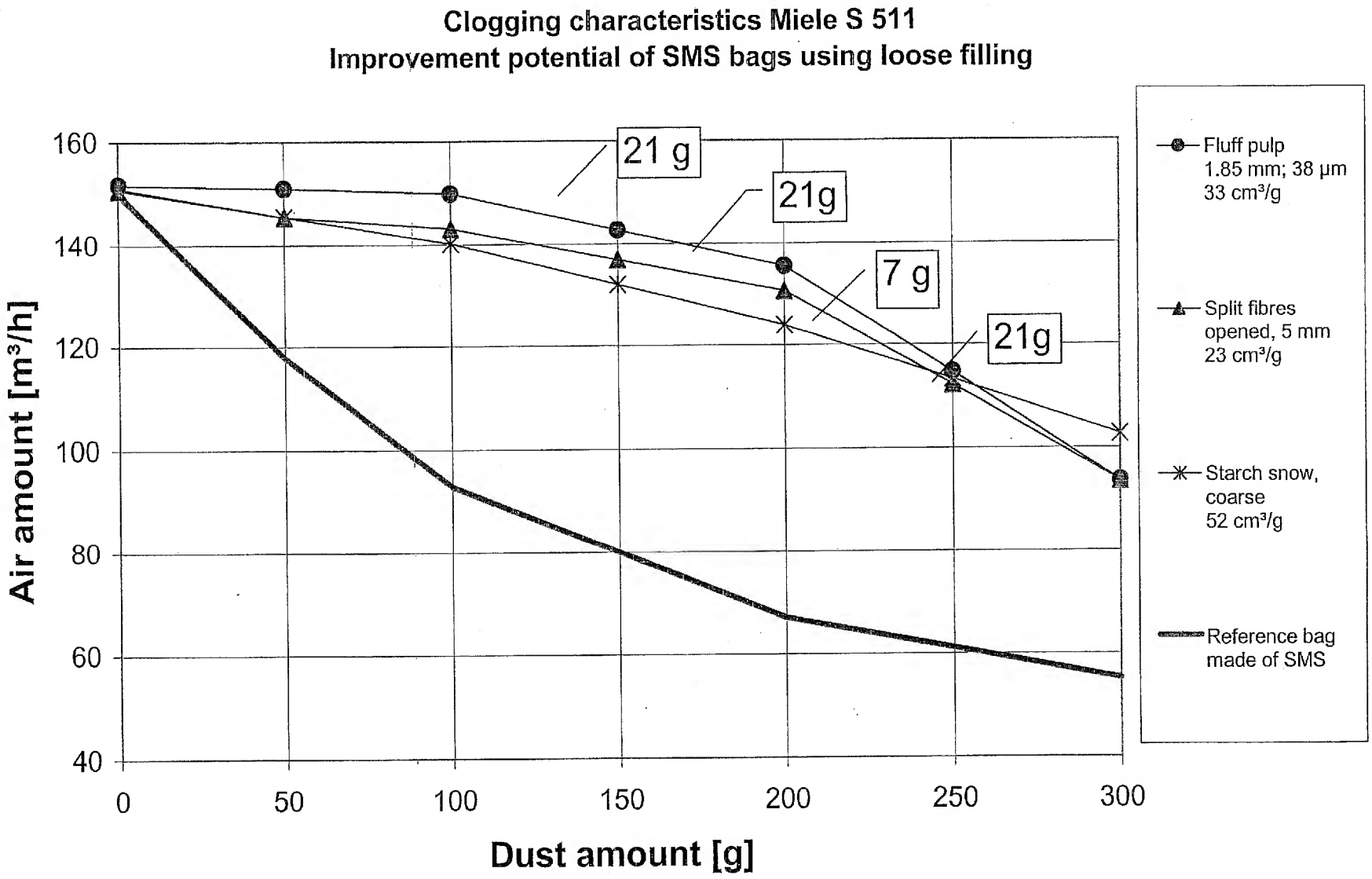
Clogging characteristics Miele S 511
Improvement potential of SMS bags using loose filling
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
21 g
21g
7 g
21g
Fluff pulp
1.85 mm; 38 µm
33 cm³/g
Split fibres
opened, 5 mm
23 cm³/g
Starch snow,
coarse
52 cm³/g
Reference bag
made of SMS

Fig. 9/11

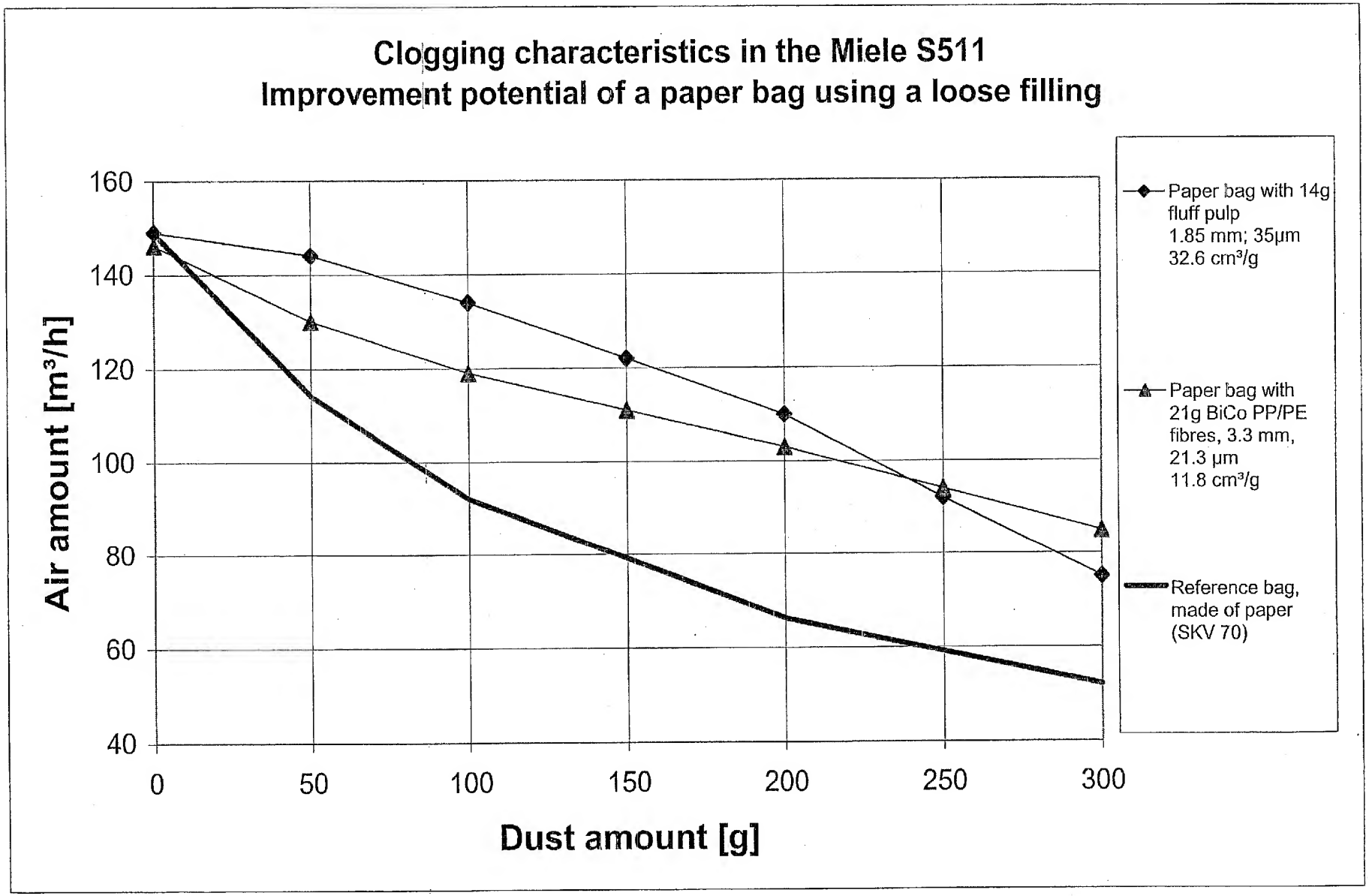
Clogging characteristics in the Miele S511
Improvement potential of a paper bag using a loose filling
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
Paper bag with 14g fluff pulp 1.85 mm; 35µm 32.6 cm³/g
Paper bag with 21g BiCo PP/PE fibres, 3.3 mm, 21.3 µm 11.8 cm³/g
Reference bag, made of paper (SKV 70)

Fig. 10/11

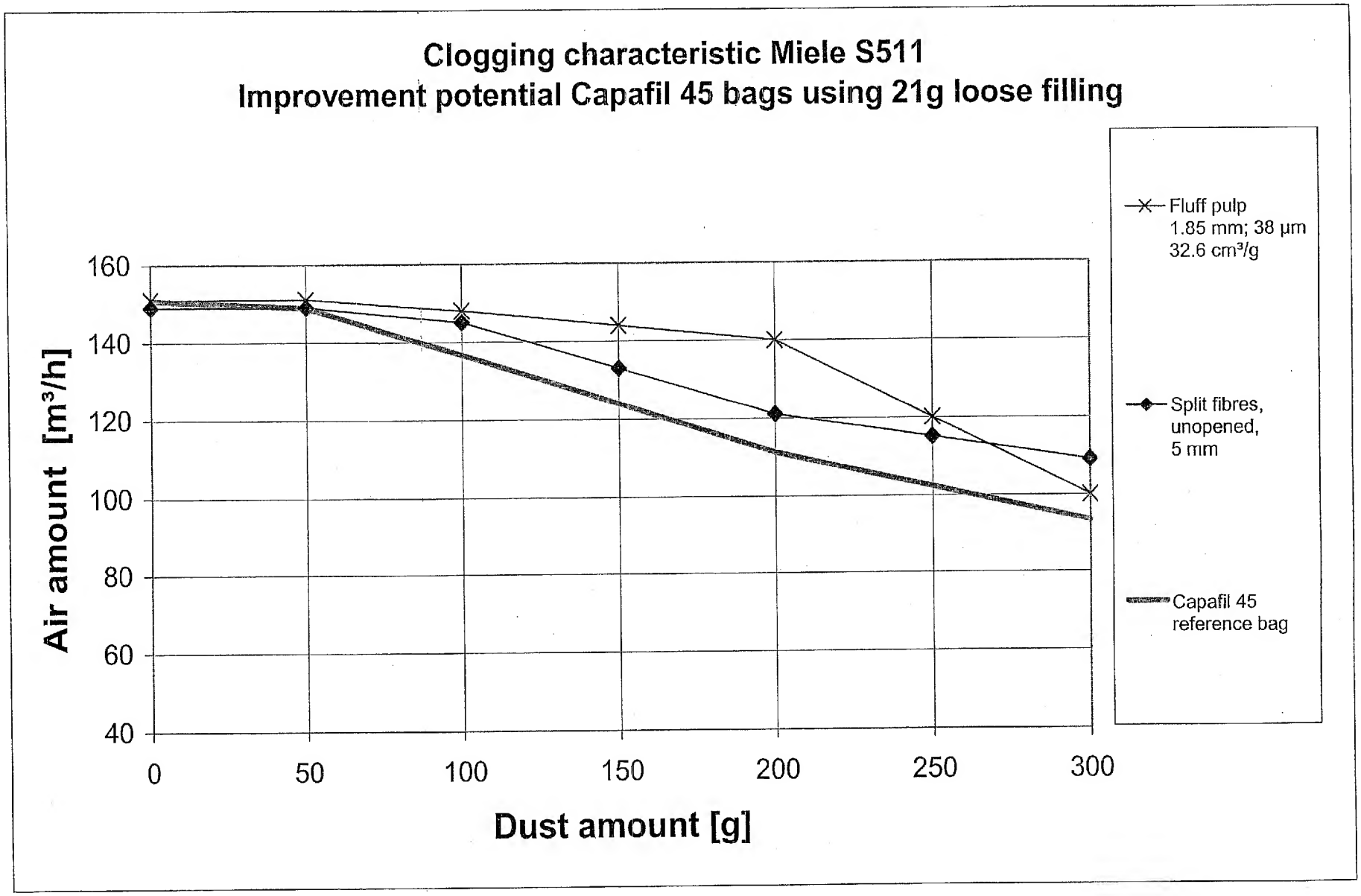
Clogging characteristic Miele S511
Improvement potential Capafil 45 bags using 21g loose filling
Air amount [m³/h]
160
140
120
100
80
60
40
0
50
100
150
200
250
300
Dust amount [g]
Fluff pulp
1.85 mm; 38 µm
32.6 cm³/g
Split fibres,
unopened,
5 mm
Capafil 45
reference bag

Fig. 11/11